

Remarks/Arguments:

By this Amendment, Applicants have amended claims 1, 5, 14, 18, 23-27, 30, 31, and 36-39. Claims 1-39 are pending.

Claim Rejections Under Section 112

Claims 1-13 stand rejected under 35 USC §112, second paragraph, as being incomplete for omitting essential elements. Based on the Examiner's comments set forth at pages 2-3 of the Office Action, Applicants have amended claims 1 and 5 to overcome the basis for the Section 112, second paragraph, rejection.

Claims 14-39 stand rejected under 35 USC §112, second paragraph, as being incomplete for omitting essential steps. Following the comments of the Examiner as set forth at pages 3-6 of the Office Action, Applicants have amended claims 14, 18, 27, and 31 to overcome the basis for the Section 112, second paragraph, rejection.

Applicants respectfully submit that all pending claims 1-39 are in full compliance with Section 112.

Claim Rejections Under Section 103

Claims 1-39 stand rejected under 35 USC §103(a) as being unpatentable over Miyamoto. Based on this Amendment, Applicants respectfully traverse this Section 103(a) rejection.

Claims 1, 5, 14, 18, 27 and 31 are independent claims with the remaining claims dependent on various independent claims.

Turning first to independent claim 1, it is directed to a process assessment tool for assessing a load a manufacturing process for an industrial product puts on the environment. The processing assessment tool of claim 1 includes the following elements:

- a data base for inputting and storing data of a first environmental load corresponding to each energy source, whose consumption produces the first environmental load,
- a data input unit, into which data conditions of the manufacturing process for the industrial product is input,
- **a data processing unit** using the data entered into the data input unit and the data of **the first environmental load** stored in the data base **for calculating a second environmental load in each step of the manufacturing process producing the industrial product, the second environmental load produced when each energy source consumed in each step of the manufacturing process**, and
- a data output unit for outputting a result the data processing unit calculates.

It is Applicants' contention that the process assessment tool defined by claim 1, as well as the claims dependent thereon, is patentably distinguished from the Miyamoto Patent at least based on the requirement of the data processing unit using the data entered into the data input unit and the data of the first environmental load stored in the data base for calculating a second environmental load in each step of the manufacturing process producing the industrial product, the second environmental load produced when each energy source consumed in each step of the manufacturing process. Simply put, the second environmental load feature of Applicants' claimed invention is neither taught nor suggested in the Miyamoto Patent.

Applicants' believe that the rejection of claims 1-39 may have been based on a misunderstanding as set forth in the Office Action with respect to the second environmental load which is obtained as a result of the calculations. Applicants' amendment of each of the independent claims more clearly sets forth the second environmental load feature of Applicants' claimed invention. It appears to Applicants, that the Office Action neglects to take into consideration that the second environmental load is calculated based on data input from the conditions of a production process of an industrial product. The second environmental load is obtained not by newly inputting data, but as a result of calculations.

Referring to Figure 1 of the subject application, which illustrates a process assessment tool, an electric power environmental load database 6 and a fossil fuel environmental load database 7 are shown. The electric power environmental load database 6 and fossil fuel environmental load database 7 respectively store environmental loads generated by these respective energy sources. Material environmental load data base 8 stores respective environmental loads generated by the respective materials. With respect to Applicants' claimed invention, in the process of manufacturing an industrial product, environmental loads are calculated in each step of the manufacturing process producing the industrial product, based on energy consumption and the amount of emissions and waste.

The Miyamoto Patent, in general, concerns an environmental load assessing device which includes an object data storage section composed of an object-oriented database. The object data storage section stores data input from an input section. Specifically, parts of a product to be assessed and/or processes in a life cycle of the product are stored as objects, respectively. Attribute data of the parts and/or the processes are stored as attribute data of objects corresponding to those parts and/or processes. Coupling relationships between the parts and/or between the processes are defined by classes and attribute data of objects corresponding to those parts and/or processes and stored.

In contrast to Applicants' claimed invention, the Miyamoto Patent discloses, for example, inputting and storing the environmental load data known in each step into the database for one product or plural products, and discloses storing the environmental load generated from components and the materials used for the product.

In addition, the Miyamoto Patent relates to evaluating the environmental loads about a life cycle of a product, of which data is stored in a database, by using the stored data. For example, Miyamoto teaches that when a process class 20 is a virtual class representing all processes in a life cycle of a product, the process class 20 is composed of a mining class 21, a manufacturing class 22, a distributing class 23, etc., and then the rate of an environmental load generating from each of the above classes can be derived. See the Miyamoto Patent at column 9, lines 11-24.

But in contrast to Applicants' claimed invention, the Miyamoto Patent does not disclose that an environmental load in each step of the manufacturing production process of a product produced by using energy or materials is calculated based on the environmental load generated by each energy source or that generated by each material. (As pointed out in the subject application at page 5, "step" means an individual operation or process which constitutes a manufacturing process.) Simply put, the Miyamoto Patent does not teach or suggest the second environmental load feature of Applicants' claimed invention, and therefore claim 1 and the claims dependent thereon are patentably distinguished from the Miyamoto Patent.

Applicants have also amended independent claims 5, 14, 18, 27 and 31 so that they too substantially include the second environmental load feature and are therefore patentably distinguished from the Miyamoto Patent. In this respect, Applicants point to the following portion of amended claim 5:

a data processing unit using the data entered into said data input unit and the data of the first environmental load stored in said data base for calculating a second environmental load that each step of the manufacturing process produces when the material is consumed in said each step of the manufacturing process.

To make the second environmental load feature more clear in claims 14 and 27, Applicants have amended those claims so that they read as follows:

calculating a second environmental load that each step of said manufacturing process produces when said each energy source is consumed in said each step of said manufacturing process, with the condition and data of the first environmental load stored in said database.

And with respect to claims 18 and 31, Applicants have amended those claims as follows to more clearly indicate the second environmental load feature:

calculating a second environmental load that each step of said manufacturing process produces when the material is consumed in said each step of the manufacturing process, with said amount of consumption of the material and data of the first environmental load stored in said database.

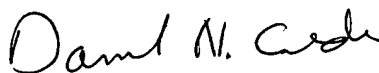
Thus, all of the independent claims, and consequently the dependent claims, substantially include the second environmental load feature and are therefore patentably distinguished from the Miyamoto Patent.

Applicants submit that the amendment of all of the claims is based on the application as originally filed and in this respect, Applicants note, for example, the disclosure in the subject application at page 5, lines 21-22, and page 9, lines 11-23.

In view of the foregoing, Applicants respectfully submit that claims 1-39 are patentably distinguished from the Miyamoto Patent and request that the Section 103(a) rejection be withdrawn.

In view of the foregoing remarks and amendments, claims 1-39 are in condition for allowance. Reconsideration and allowance of all pending claims are respectfully requested.

Respectfully submitted,



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